

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WISCONSIN

AMY MARIE STEVENS,

Plaintiff,

V.

STRYKER CORPORATION and
STRYKER SALES CORPORATION

Defendants.

Civil Action No. 3:12-cv-00063-bbc

Expert Report of Jeffrey J. Cordray

Jeffrey J. Cordray
January 17, 2013

Expert Report of Jeffrey J. Cordray

Qualifications

1. My name is Jeff Cordray. I am Vice President of Christensen Associates, an economic research and consulting firm located in Madison, Wisconsin. A copy of my CV is included as Appendix A. Appendix B contains a list of cases in which I have testified within the preceding four years. A list of the documents which I have received in this case appears as Appendix C. Christensen Associates charges \$250 per hour plus expenses for my professional services in this case. Neither Christensen Associates' compensation nor mine is dependent upon the outcome of this case.

Introduction

2. I have been retained by counsel for Defendants, Stryker Corporation and Stryker Sales Corporation (Stryker). Counsel has asked me to review the September 21, 2012 Expert Report of Paul Randle and to respond to Mr. Randle's computations of the present value of the lost future earnings and future fringe benefits losses of Amy Stevens. My opinions are based on the information currently available to me as identified in this report and Appendix C. If additional information becomes available, I reserve the right to consider its effects, if any, on my opinions at that time.

3. If I am asked to testify at trial regarding my opinions in this case, I expect to use documents produced by the parties in this case as exhibits. I may also use

demonstrative exhibits to support my opinions at trial, including summaries, figures, enlargements, and computer-generated presentations. These exhibits have not yet been determined, as they may be affected by additional discovery, rulings by the Court, etc.

Summary of Opinions

4. It is my opinion that Ms. Stevens's injury has not reduced her past earnings or future expected earnings. Thus, the present value of her future loss of expected earnings and future fringe benefit losses is equal to \$0.

5. It is also my opinion that, even assuming a decrease in worklife expectancy as Mr. Randle does, his methodology and opinions are flawed for several reasons. Specifically, as explained in detail below, if Mr. Randle had: (a) utilized the "Not Severe Work Disability" data from his worklife expectancy tables (from the source which he used); (b) not assumed that pre-retirement losses will occur; and (c) applied an appropriate discount rate, his calculation of the present value of Ms. Stevens's future loss of earnings would have decreased to \$408,996.¹ Consequently, Mr. Randle's calculation of the present value of Ms. Stevens's future fringe benefit losses would be reduced to \$166,543. See Table 1.

6. Although I am not offering any opinions on the amounts of damages in categories other than Ms. Stevens's future loss of expected earnings and future fringe benefits losses, I note that Mr. Randle's report contains a projection of expected future housecleaning and home maintenance costs.² Mr. Randle assumes that Ms. Stevens will

¹ As discussed below, Ms. Stevens does not appear to fit the requirements to be classified as having a "Not Severe Work Disability." Thus, this would only provide an upper bound. Based on Mr. Janzen's opinion of no reduction in worklife, Ms. Stevens's future lost expected earnings are \$0.

² Expert Report of Paul Randle, September 21, 2012, Table 6-A.

incur costs in excess of \$2,000 per year in each of these categories for the remainder of her life. I agree with John M. Janzen that there is no basis to support such a projection.³ Ms. Stevens testified that she lives alone in a condominium, that she is able to clean it by herself, and that she does not hire anybody to help her with it.⁴ In addition, she testified that she is not in need of a gardener or help with her outside grounds, as her condo association takes care of this.⁵

Background

7. On July 23, 2004, Amy Stevens underwent arthroscopic surgery performed on her left shoulder.⁶ The catheter of a Stryker Pain Pump was used to provide post-surgical pain relief to Ms. Stevens via insertion into the shoulder joint.⁷ Subsequent to this surgery, Ms. Stevens did not undergo additional procedures related to her shoulder until February 2011.⁸ At that time, she obtained diagnostic and other care from Dr. Christopher Annunziata, who also performed left shoulder arthroscopic chondroplasty and bicep tenotomy on Ms. Stevens on August 3, 2011.⁹

8. Shortly after her July 2004 surgery, Ms. Stevens began working for Landon IP as a patent researcher, and she maintained this position until July 2006.¹⁰ During her employment with Landon IP, Ms. Stevens did not suffer any work limitations related to her left shoulder, and there were no physical requirements of her job which were

³ Expert Report of John M. Janzen, January 4, 2013, p. 4.

⁴ Deposition of Amy Marie Stevens, November 15, 2012, pp. 56, 69, 73.

⁵ Deposition of Amy Marie Stevens, November 15, 2012, p. 72.

⁶ Complaint, p. 5.

⁷ *Id.*

⁸ *Id.* and Expert Report of John Janzen, January 4, 2013, p. 1.

⁹ Expert Report of John Janzen, January 4, 2013, pp. 1-2.

¹⁰ Deposition of Amy Marie Stevens, November 15, 2012, pp. 31-32.

affected by her left shoulder in any way.¹¹ She began employment with the Department of the Navy, Office of the Judge Advocate General (JAG) in July 2006, when she worked as a management analyst, earning \$44,003 annually.¹² Since 2006, she has been promoted several times, and her annual salary increased accordingly—from her starting salary to approximately \$49,000, again to \$61,000, yet again to about \$70,000, and to her current approximate annual salary of \$92,000.¹³ Ms. Stevens’s current position with the Department of the Navy, Office of JAG is acting director of civilian personnel division.¹⁴ I understand that “there is no indication of any permanent restrictions precluding [Ms. Stevens] from employment.”¹⁵ In addition, Ms. Stevens has stated that her current supervisor has indicated she could be a candidate for his position once he retires, an opportunity that she is interested in.¹⁶

Damages Analysis

9. Mr. Janzen opines that given Ms. Stevens’s educational background and continuous employment, “[S]he will be able to continue to meet and exceed the physical requirements of her current and future employment in positions consistent with her education and employment history.”¹⁷ According to Mr. Janzen, “Ms. Stevens demonstrated ability to maintain continuous and active employment for a period of 8 years reveals no loss of work life expectancy.”¹⁸

¹¹ Deposition of Amy Marie Stevens, November 15, 2012, p. 32.

¹² Deposition of Amy Marie Stevens, November 15, 2012, pp. 32-33, 37.

¹³ Deposition of Amy Marie Stevens, November 15, 2012, pp. 37, 39-40, 47.

¹⁴ Deposition of Amy Marie Stevens, November 15, 2012, p. 44.

¹⁵ Expert Report of John Janzen, January 4, 2013, p. 3.

¹⁶ Expert Report of James Gracey and Molly Struble, September 14, 2012, p. 6.

¹⁷ Expert Report of John Janzen, January 4, 2013, p. 3.

¹⁸ *Id.*

10. Mr. Janzen further opines, “[B]ased on her salary increases over an 8 year period there is no evidence to support a reduction in earning capacity due to physical limitations imposed by her left shoulder. Therefore, any claim for future loss of earnings is unsupported by the facts.”¹⁹ I agree that if Ms. Stevens’s worklife has not been reduced, then she has not suffered a loss of expected earnings.

11. As part of my assignment, I have reviewed the September 21, 2012 Expert Report of Paul Randle. Mr. Randle’s future loss of earnings and future loss of fringe benefits computations are based on assumptions which ignore Ms. Stevens’s employment history and are contradicted by her deposition testimony. His models also apply diminished worklife expectancy for Ms. Stevens based on an overly aggressive application of an opinion expressed by James Gracey and Molly Struble. Mr. Randle’s report contains additional errors which I discuss below.

12. In her position as acting director of civilian personnel division, Ms. Stevens currently earns wages of approximately \$92,000.²⁰ At the time of Mr. Randle’s report, Ms. Stevens’s annual salary was \$89,033.²¹ According to Mr. Randle, “This level of earning represents the capacity to earn for a fully enabled worker, a level at which Ms. Stevens will be unable to continuously and permanently function because of the nature of her injuries.”²² However, the injury has not negatively impacted Ms. Stevens’s earnings in the past eight years. Ms. Stevens has been promoted several times since her employment with the Department of the Navy began in 2006, and her salary has

¹⁹ Expert Report of John Janzen, January 4, 2013, p. 4.

²⁰ Deposition of Amy Marie Stevens, November 15, 2012, pp. 44, 47.

²¹ Expert Report of Paul Randle, September 21, 2012, p. 3.

²² *Id.*

increased commensurately.²³ In addition, during her November 2012 deposition, Ms. Stevens testified that she believes that she will be able to continue working in her current employment, with her injury.²⁴ Ms. Stevens's injury has not prevented her from excelling at her profession over the past eight years or being compensated for her work with large salary increases, and Ms. Stevens is confident that she will be able to continue with this employment.²⁵ Mr. Randle should not have assumed a reduced level of earnings for Ms. Stevens.

13. Mr. Randle also applies a reduced worklife expectancy based on an overly aggressive application of an opinion given by James Gracey and Molly Struble. In his report, Mr. Randle quotes Gracey's and Struble's opinion regarding Ms. Stevens's future:

She is a disabled worker and will likely continue to "push the envelope" for many years. She will be at risk of early retirement (by age 50) and faces additional surgeries throughout her lifetime.²⁶

Instead of considering (and accounting for) the mere chance that Ms. Stevens may retire early, Mr. Randle simply assumes that Ms. Stevens will retire when she turns 50 years old.²⁷ This assumption greatly impacts Mr. Randle's damages models, leading to overstated estimates of lost earnings and fringe benefits.

14. Mr. Randle's report also states that he has "assumed that Ms. Stevens' impaired capacity to earn [while she is still working] will be similar to the ratio of impaired to normal income reported in data published by the U.S. Census Bureau,

²³ Deposition of Amy Marie Stevens, November 15, 2012, pp. 37, 39-40, 47.

²⁴ Deposition of Amy Marie Stevens, November 15, 2012, p. 55.

²⁵ Deposition of Amy Marie Stevens, November 15, 2012, pp. 37, 39-40, 47, 55.

²⁶ Expert Report of Paul Randle, September 21, 2012, p. 3.

²⁷ See Expert Report of Paul Randle, September 21, 2012, Table 3.

Current Population Survey, 2009 Annual Social and Economic Supplement.”²⁸ Mr. Randle continues, “We have based our computation of Ms. Stevens’ post-injury capacity to earn on: (1) her expectation to be employed in an administrative position for the federal government; and (2) a diminution of those earnings reflecting the fact that she will be employed as a disabled worker.”²⁹ Mr. Randle acknowledges that his computation is based on his assumption that Ms. Stevens is a disabled worker.³⁰ But, Mr. Randle does not discuss the Current Population Survey’s definition of a “disabled worker.”

15. According to the Current Population Survey (CPS), Annual Social and Economic Supplement (ASEC), a person with a work disability has “a health problem or disability which prevents them from working or which limits the kind or amount of work they can do.”³¹ Ms. Stevens testified that her current employer has not had to make any accommodations relating to the physical requirements of her job due to the injury and

²⁸ Expert Report of Paul Randle, September 21, 2012, p. 3 [emphasis and text in brackets added]. Mr. Randle cites a 2009 Annual Social and Economic Supplement (which does not appear to exist at present), but he uses data from the 2008 Annual Social and Economic Supplement, which is attached to his report. Mr. Randle applies a ratio of “impaired to normal income” of 83.24% until Ms. Stevens turns 35, despite her recent salary increases; he applies a ratio of 100% to the years that she is between the ages of 35 and 44; and he applies a ratio of 68.09% for the years that she is 45 to 49.99 years old. See Expert Report of Paul Randle, September 21, 2012, Table 3. However, the CPS data actually report a ratio of 110.04% for women of ages 35 to 44 with a work disability and a bachelor’s degree or higher education. That is, according to Mr. Randle’s source, these disabled women earned more than their counterparts with no work disability. See U.S. Census Bureau, Current Population Survey, 2008 Annual Social and Economic Supplement. These data appear as an attachment to Mr. Randle’s report, but he misrepresents the 110.04% as 100.0%. This has the effect of increasing Mr. Randle’s damages.

²⁹ Expert Report of Paul Randle, September 21, 2012, p. 4.

³⁰ Expert Report of Paul Randle, September 21, 2012, p. 4.

³¹ See <http://www.census.gov/people/disability/methodology/cps.html>. The CPS uses a 7-question test to determine if a person has a work disability. The six determinants not listed above do not qualify Ms. Stevens as having a work disability. Questions 2 through 7 ask if the respondent: 2) has ever retired or quit a job due to an injury; 3) is not in the labor force due to a disability; 4) did not work at all in the prior year due to a disability; 5) is under 65 years old and was covered by Medicare; 6) is under 65 years old and received Supplemental Security Income; and 7) received VA disability income.

that she has not missed work due to shoulder pain.³² Ms. Stevens also testified that she works close to 50 hours per week and doesn't remember the last time she only worked 40 hours in a week.³³

16. In determining the normal (not disabled) worklife expectancy for Ms. Stevens, Mr. Randle utilized The New Worklife Expectancy Tables, Revised 2006. The remaining worklife value which Mr. Randle applied—equal to 29.4 years—came from the category “ND,” short for “No Work Disability.”³⁴ Another category in these tables is “NS,” short for “Not Severe Work Disability.” Based on the CPS ASEC's definition of disability, Ms. Stevens does not have a severe work disability.³⁵

17. To assist with evaluating Mr. Randle's damages calculations and opinions, I have calculated the present value of Ms. Stevens's future lost earnings and future fringe benefits losses assuming that her remaining worklife is equal to that of a worker of her gender, age, and educational attainment with a “Not Severe Work Disability.”³⁶ I

³² Deposition of Amy Marie Stevens, November 15, 2012, pp. 51-52. Ms. Stevens testified that the only time she has missed work in relation to her injury is for scheduled medical appointments and recovery time after her August 2011 surgical procedures. *Id.* at 52.

³³ Deposition of Amy Marie Stevens, November 15, 2012, p. 48.

³⁴ See The New Worklife Expectancy Tables, Revised 2006, Vocational Econometrics, Inc. (attached to the Expert Report of Paul Randle, September 21, 2012.) Ms. Stevens was 30.6 years old at the time of Mr. Randle's computation. $30.6 + 29.4 = 60$ years.

³⁵ The CPS ASEC only defines a worker as having a “severe work disability” if they are not in the labor force due to a disability; did not work at all in the prior year due to a disability; or are under 65 years old and yet covered by Medicare and/or receiving Supplemental Security Income. See <http://www.census.gov/people/disability/methodology/cps.html>.

³⁶ Ms. Stevens does not fit the definition of “Not Severe Work Disability.” Based on the CPS guidelines, Ms. Stevens does not appear to have a work impairment that is defined as a work disability. As discussed above, she has not had any accommodations made for her in her employment with the Department of the Navy or been limited in her work. See also Expert Report of John Janzen, January 4, 2013, pp. 3-4. Nonetheless, if one assumes that Ms. Stevens's shoulder injury has impacted her worklife expectancy, as Mr. Randle does, the only possible category to apply is “Not Severe Work Disability.”

perform this calculation by starting with Mr. Randle's model and making three adjustments.³⁷

18. First, I change the age of Ms. Stevens's retirement by applying a remaining worklife value obtained from The New Worklife Expectancy Tables, Revised 2006—the same tables which Mr. Randle used in his computation.³⁸ A 30-year old female "Baccalaureate Plus" with a "Not Severe Work Disability" has a worklife expectancy of 23.6 years.³⁹ Applying this value to Mr. Randle's model results in retirement for Ms. Stevens when she reaches 54.2 years of age.

19. Next, I change the values for "Impaired Earnings as a Percent of Impaired Capacity to Earn" to 100% for all time periods prior to Ms. Stevens's retirement at 54.2 years of age, which takes place in 2036. As discussed above, Ms. Stevens's annual earnings level, to date, has not been negatively impacted by her injury.

20. Lastly, I calculate the present value of Ms. Stevens's "Estimated Uninflated Annual Losses" by applying a net discount rate of one percent.⁴⁰ This net discount rate accounts for both Ms. Stevens's future estimated wage increases and the time value of money. In my opinion, the one percent net discount rate which I apply is conservative. My methodology in arriving at the one percent net discount rate is explained in detail in Appendix D.

³⁷ In addition, between September 21, 2012 (the date of Mr. Randle's report) and present, Ms. Stevens's salary has increased to \$92,000 annually. Deposition of Amy Marie Stevens, November 15, 2012, p. 47. My calculation reflects her 2013 salary of \$92,000 and discounts losses to January 1, 2013.

³⁸ Expert Report of Paul Randle, September 21, 2012, p. 3.

³⁹ See The New Worklife Expectancy Tables, Revised 2006, Vocational Econometrics, Inc. (attached to the Expert Report of Paul Randle, September 21, 2012.)

⁴⁰ I calculate a present value as of January 1, 2013. See Tables 2 and 3.

21. If Mr. Randle had utilized the “Not Severe Work Disability” data from his worklife expectancy tables (from the source which he used), not assumed that pre-retirement losses will occur, and applied an appropriate discount rate, his calculation of the present value of Ms. Stevens’s future loss of earnings would equal \$408,996. See Table 2. Mr. Randle’s calculation of the present value of her future fringe benefits losses would equal \$166,543. See Table 3.

22. However, as discussed above, based on Mr. Janzen’s opinion of no loss of work duration (worklife) for Ms. Stevens, it is my opinion that Ms. Stevens’s injury does not impact her expected earnings. In my opinion, the present value of her future fringe benefits losses is also equal to \$0.

Table 1
Summary of Corrections Made to Mr. Randle's Models

Present Value of Future Lost Earnings ¹	\$408,996
Present Value of Future Lost Fringe Benefits ²	<u>\$166,543</u>
Total Present Value ³	\$575,539

Sources and Notes

¹ Table 2.

² Table 3.

³ Equal to the sum of Present Value of Future Lost Earnings and Present Value of Future Lost Fringe Benefits.

Table 2
Present Value of Future Lost Earnings
(Corrections to Randle Report Table 3)

Year ¹	Age on January First of Each Year ¹	Expected Uninflated Normal Capacity to Earn ²	100% of Expected Uninflated Normal Capacity to Earn ³	Impaired Earnings as a Percent of Impaired Capacity to Earn ⁴	Reduced Expected Uninflated Impaired Capacity to Earn ⁵	Estimated Uninflated Annual Loss ⁶
2012	30.60	\$22,189	\$22,189	100.00%	\$22,189	\$0
2013	30.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2014	31.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2015	32.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2016	33.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2017	34.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2018	35.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2019	36.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2020	37.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2021	38.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2022	39.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2023	40.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2024	41.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2025	42.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2026	43.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2027	44.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2028	45.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2029	46.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2030	47.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2031	48.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2032	49.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2033	50.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2034	51.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2035	52.85	\$92,000	\$92,000	100.00%	\$92,000	\$0
2036	53.85	\$92,000	\$92,000	100.00%	\$32,200	\$59,800
2037	54.85	\$92,000	\$92,000	0.00%	\$0	\$92,000
2038	55.85	\$92,000	\$92,000	0.00%	\$0	\$92,000
2039	56.85	\$92,000	\$92,000	0.00%	\$0	\$92,000
2040	57.85	\$92,000	\$92,000	0.00%	\$0	\$92,000
2041	58.85	\$92,000	\$92,000	0.00%	\$0	\$92,000
2042	59.85	\$13,800	\$13,800	0.00%	\$0	\$13,800
Present Value of Future Lost Earnings at Net Discount Rate ⁷						\$408,996

Sources and Notes

¹ Expert Report of Paul Randle, September 21, 2012, Table 3.

² 2012 data from *Id.* For years 2013 and going forward, I apply Ms. Stevens's current approximate salary of \$92,000. See Deposition of Amy Marie Stevens, November 15, 2012, p. 47.

³ Equal to Expected Uninflated Normal Capacity to Earn.

⁴ I have corrected Mr. Randle's Table 3 by changing this ratio to 100 percent for all years in this scenario in which Ms. Stevens is employed. See ¶ 12 and ¶ 19 of my report.

⁵ Equal to 100% of Expected Uninflated Normal Capacity to Earn multiplied by Impaired Earnings as a Percent of Impaired Capacity to Earn. My correction to Mr. Randle's Table 3 applies a worklife expectancy for Ms. Stevens based on the "Not Severe Work Disability" from the source used by Mr. Randle. This results in a retirement for Ms. Stevens at 54.2 years of age. See ¶ 16 and ¶ 18 of my report. Thus, my calculation for 2036 is equal to \$92,000 multiplied by (54.2 minus 53.85). 53.85 is Ms. Stevens's age on January 1, 2036.

⁶ Equal to Expected Uninflated Normal Capacity to Earn minus Reduced Expected Uninflated Impaired Capacity to Earn.

⁷ Equal to the sum of Expected Uninflated Annual Loss for all years, discounted to January 1, 2013 by applying a net discount rate of 1 percent. For discussion of this net discount rate, see Appendix D.

Table 3
Present Value of Future Lost Fringe Benefits
(Corrections to Randle Report Table 4)

Year ¹	Age on January First of Each Year ¹	Expected Uninflated Normal Benefit ²	Expected Uninflated Impaired Benefit ³	Expected Uninflated Annual Loss ⁴
2012	30.60	\$9,035	\$9,035	\$0
2013	30.85	\$37,462	\$37,462	\$0
2014	31.85	\$37,462	\$37,462	\$0
2015	32.85	\$37,462	\$37,462	\$0
2016	33.85	\$37,462	\$37,462	\$0
2017	34.85	\$37,462	\$37,462	\$0
2018	35.85	\$37,462	\$37,462	\$0
2019	36.85	\$37,462	\$37,462	\$0
2020	37.85	\$37,462	\$37,462	\$0
2021	38.85	\$37,462	\$37,462	\$0
2022	39.85	\$37,462	\$37,462	\$0
2023	40.85	\$37,462	\$37,462	\$0
2024	41.85	\$37,462	\$37,462	\$0
2025	42.85	\$37,462	\$37,462	\$0
2026	43.85	\$37,462	\$37,462	\$0
2027	44.85	\$37,462	\$37,462	\$0
2028	45.85	\$37,462	\$37,462	\$0
2029	46.85	\$37,462	\$37,462	\$0
2030	47.85	\$37,462	\$37,462	\$0
2031	48.85	\$37,462	\$37,462	\$0
2032	49.85	\$37,462	\$37,462	\$0
2033	50.85	\$37,462	\$37,462	\$0
2034	51.85	\$37,462	\$37,462	\$0
2035	52.85	\$37,462	\$37,462	\$0
2036	53.85	\$37,462	\$13,112	\$24,351
2037	54.85	\$37,462	\$0	\$37,462
2038	55.85	\$37,462	\$0	\$37,462
2039	56.85	\$37,462	\$0	\$37,462
2040	57.85	\$37,462	\$0	\$37,462
2041	58.85	\$37,462	\$0	\$37,462
2042	59.85	\$5,619	\$0	\$5,619
Present Value of Future Lost Fringe Benefits at Net Discount Rate ⁵				\$166,543

Sources and Notes

¹ Expert Report of Paul Randle, September 21, 2012, Table 4.

² Equal to 40.72 percent of Expected Uninflated Normal Capacity to Earn from Table 2.
40.72 percent is the "Normal & impaired benefit to wages ratio" from Expert Report of Paul Randle, September 21, 2012, Table 4.

³ Equal to 40.72 percent of Reduced Expected Uninflated Impaired Capacity to Earn from Table 2.

⁴ Equal to Expected Uninflated Normal Benefit minus Expected Uninflated Impaired Benefit.

⁵ Equal to the sum of Expected Uninflated Annual Loss for all years, discounted to January 1, 2013 by applying a net discount rate of 1 percent. For discussion of this net discount rate, see Appendix D.

Table 4
Annual Growth of the Employment Cost Index

Year	Annual Growth of the U.S. Bureau of Labor Statistics Employment Cost Index for State and Local Government Workers in "Professional and related" Occupations ¹	Annual Growth of the U.S. Bureau of Labor Statistics Employment Cost Index for State and Local Government Workers in All Occupations ²	Annual Growth of the U.S. Bureau of Labor Statistics Employment Cost Index for Civilian Workers in All Occupations ³
1988		4.56%	4.01%
1989		5.58%	4.56%
1990	5.75%	5.29%	4.36%
1991	3.73%	3.92%	3.70%
1992	2.84%	2.72%	2.79%
1993	2.91%	2.94%	3.02%
1994	2.55%	3.00%	2.93%
1995	3.17%	3.05%	2.84%
1996	2.81%	2.69%	3.18%
1997	2.60%	2.75%	3.49%
1998	2.53%	3.06%	3.89%
1999	3.34%	3.34%	3.37%
2000	3.47%	3.47%	3.98%
2001	3.82%	3.94%	3.60%
2002	2.90%	3.01%	3.25%
2003	2.27%	2.38%	2.93%
2004	2.12%	1.90%	2.42%
2005	2.38%	2.69%	2.26%
2006	4.25%	3.73%	3.22%
2007	3.20%	3.50%	3.31%
2008	3.57%	3.48%	3.11%
2009	1.73%	1.91%	1.46%
2010	1.16%	1.25%	1.53%
2011	1.06%	0.97%	1.60%
2012	0.96%	1.13%	1.66%
25-Year Average			
Growth Rates	2.83%	3.05%	3.06%

Sources and Notes

¹ <ftp://ftp.bls.gov/pub/suppl/eci.ecicois.txt>. Data are from Table 11. Employment Cost Index for wages and salaries, for state and local government workers, by occupation and industry (continuous occupational and industry series). Because 2012 Q4 data are not yet available, each year's annual growth rate is calculated as the year-over-year growth at the end of September of that year. If I had held the 2012 Q3 index value constant for Q4 and used the annual growth at the end of December in each year, the average growth rate would be 2.80%. See Table 5.

² See Table 6.

³ See Table 7.

Table 5

Table 11. Employment Cost Index for wages and salaries,
for state and local government workers, by occupation and industry¹

Continuous occupational and industry series

Indexes (Dec. 2005 = 100)
(Not seasonally adjusted)

Occupational group and industry
Professional and related

Year	Mar.	June	Sep.	Dec. ²	Annual Growth	
					Q3	Q4
1989	—	58.7	60.9	61.3		
1990	62.1	62.4	64.4	64.9	5.75%	5.87%
1991	65.4	65.6	66.8	67	3.73%	3.24%
1992	67.2	67.4	68.7	69	2.84%	2.99%
1993	69.3	69.4	70.7	70.8	2.91%	2.61%
1994	71.1	71.2	72.5	72.9	2.55%	2.97%
1995	73.2	73.4	74.8	75.1	3.17%	3.02%
1996	75.3	75.5	76.9	77.3	2.81%	2.93%
1997	77.4	77.5	78.9	79.3	2.60%	2.59%
1998	79.5	79.6	80.9	81.4	2.53%	2.65%
1999	81.5	81.8	83.6	84.3	3.34%	3.56%
2000	84.7	84.9	86.5	87	3.47%	3.20%
2001	87.5	87.9	89.8	90	3.82%	3.45%
2002	90.1	90.4	92.4	93	2.90%	3.33%
2003	93.2	93.4	94.5	94.7	2.27%	1.83%
2004	95.1	95.2	96.5	96.8	2.12%	2.22%
2005	97.2	97.5	98.8	100	2.38%	3.31%
2006	100.2	100.7	103	103.6	4.25%	3.60%
2007	103.9	104.2	106.3	107	3.20%	3.28%
2008	107.5	108.1	110.1	110.3	3.57%	3.08%
2009	110.6	111	112	112.3	1.73%	1.81%
2010	112.4	112.6	113.3	113.6	1.16%	1.16%
2011	113.8	113.8	114.5	114.6	1.06%	0.88%
2012	114.9	115	115.6	115.6	0.96%	0.87%
Average Growth:					2.83%	2.80%

Sources and Notes

¹ <ftp://ftp.bls.gov/pub/suppl/eci.ecicois.txt>.

² Data for December 2012 is not yet available. I hold the September 2012 value constant to calculate Annual Growth as of December (Q4).

Table 6

Table 11. Employment Cost Index for wages and salaries,
for state and local government workers, by occupation and industry¹

Continuous occupational and industry series

Indexes (Dec. 2005 = 100)
(Not seasonally adjusted)

Occupational group and industry
All workers

Year	Mar.	June	Sep.	Dec. ²	Annual Growth	
					Q3	Q4
1987	53.4	53.5	54.8	55.2		
1988	55.8	55.9	57.3	57.9	4.56%	4.89%
1989	58.4	58.7	60.5	61	5.58%	5.35%
1990	61.7	62	63.7	64.2	5.29%	5.25%
1991	64.9	65.1	66.2	66.4	3.92%	3.43%
1992	66.8	67	68	68.4	2.72%	3.01%
1993	68.8	68.9	70	70.2	2.94%	2.63%
1994	70.7	70.8	72.1	72.4	3.00%	3.13%
1995	72.9	73.1	74.3	74.7	3.05%	3.18%
1996	75	75.2	76.3	76.8	2.69%	2.81%
1997	77.1	77.2	78.4	78.9	2.75%	2.73%
1998	79.3	79.5	80.8	81.3	3.06%	3.04%
1999	81.6	81.9	83.5	84.2	3.34%	3.57%
2000	84.7	84.9	86.4	87	3.47%	3.33%
2001	87.6	88.1	89.8	90.2	3.94%	3.68%
2002	90.6	90.9	92.5	93.1	3.01%	3.22%
2003	93.4	93.7	94.7	95	2.38%	2.04%
2004	95.4	95.5	96.5	97	1.90%	2.11%
2005	97.6	97.8	99.1	100	2.69%	3.09%
2006	100.3	100.8	102.8	103.5	3.73%	3.50%
2007	104.1	104.6	106.4	107.1	3.50%	3.48%
2008	107.7	108.2	110.1	110.4	3.48%	3.08%
2009	110.9	111.4	112.2	112.5	1.91%	1.90%
2010	112.7	112.9	113.6	113.8	1.25%	1.16%
2011	114.1	114.2	114.7	114.9	0.97%	0.97%
2012	115.2	115.4	116	116	1.13%	0.96%
Average Growth:					3.05%	3.02%

Sources and Notes

¹ <ftp://ftp.bls.gov/pub/suppl/eci.ecicois.txt>.

² Data for December 2012 is not yet available. I hold the September 2012 value constant to calculate Annual Growth as of December (Q4).

Table 7

Table 8. Employment Cost Index for wages and salaries, for civilian workers, by occupation and industry¹

Continuous occupational and industry series

Indexes (Dec. 2005 = 100)
(Not seasonally adjusted)

Occupational group and industry
All workers

Year	Mar.	June	Sep.	Dec. ²	Annual Growth	
					Q3	Q4
1987	53.8	54.1	54.8	55.2		
1988	55.7	56.2	57	57.5	4.01%	4.17%
1989	58.2	58.7	59.6	60.1	4.56%	4.52%
1990	60.8	61.4	62.2	62.6	4.36%	4.16%
1991	63.3	63.9	64.5	64.9	3.70%	3.67%
1992	65.4	65.7	66.3	66.6	2.79%	2.62%
1993	67.2	67.6	68.3	68.7	3.02%	3.15%
1994	69.1	69.6	70.3	70.6	2.93%	2.77%
1995	71.1	71.7	72.3	72.7	2.84%	2.97%
1996	73.4	74	74.6	75.1	3.18%	3.30%
1997	75.8	76.3	77.2	77.9	3.49%	3.73%
1998	78.6	79.2	80.2	80.8	3.89%	3.72%
1999	81.2	82	82.9	83.6	3.37%	3.47%
2000	84.5	85.3	86.2	86.7	3.98%	3.71%
2001	87.7	88.4	89.3	90	3.60%	3.81%
2002	90.8	91.6	92.2	92.6	3.25%	2.89%
2003	93.4	94	94.9	95.2	2.93%	2.81%
2004	95.8	96.4	97.2	97.5	2.42%	2.42%
2005	98.1	98.7	99.4	100	2.26%	2.56%
2006	100.7	101.5	102.6	103.2	3.22%	3.20%
2007	104.3	105	106	106.7	3.31%	3.39%
2008	107.6	108.4	109.3	109.6	3.11%	2.72%
2009	110	110.3	110.9	111.2	1.46%	1.46%
2010	111.6	112.1	112.6	113	1.53%	1.62%
2011	113.4	113.9	114.4	114.6	1.60%	1.42%
2012	115.3	115.8	116.3	116.3	1.66%	1.48%
Average Growth:					3.06%	3.03%

Sources and Notes

¹ <ftp://ftp.bls.gov/pub/suppl/eci.ecicois.txt>.

² Data for December 2012 is not yet available. I hold the September 2012 value constant to calculate Annual Growth as of December (Q4).